FEDOROV, I.I.

Experimental substantiation of the use of sodium lactate solutions in a surgical clinic. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:69-89 '61. (MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

FEDOROV, I.I.; FEDOROVA, Z.P.; CHERNOGOROVA, Z.L.

Elimination of hemodynamic disorders by intravenous injection of a sodium lactate solution in conjunction with BK-8. Trudy Kiev. nauch.-issl. inst. perel. krovi i neotlozh. khir. 3:90-95 '61.
(MIRA 17:10)

1. Kiyevskiy institut perelivaniya krovi.

ZAKHARIYA, Ye.A.; FEDOROV, I.I.

Disintoxicating effect of sodium lactate in poisoning with narcotis.
Vrach.delo no.2:71-75 F '63. (MIRA 16:5)

1. Kafedra patologicheskoy fiziologii (zav. - prof. I.I. Fedorov)
L'vovskogo meditsinskogo instituta.
(NARCOTICS) (SODIUM LACTATE)

BEGUNOVA, N.I., red.; BRUSILOVSKIY, Ye.S., dots., red.; DASHTYANTS, G.A., prof., red.; POLISHCHUK, I.A., prof., red.; UMOVIST, M.N., dots., red.; FEDOROV, I.I., prof., red. DASHTAYANTS, G.A., red.; BRUSILOVSKIY, Ye.S., red.

[Allergy problems in clinical practice] Voprosy allergii v klinike. Kiev, osmedizdat USSR, 1963. 221 p.
(MIRA 18:9)

1. Kiyevskiy Gosudarstvennyy institut usovershenstvovaniya vrachey. 2. Glavnyy vrach Gorodskoy klinicheskoy bol'nitsy Shevchenskogo rayona goroda Kiyeva (for Begunova). 3. Kiyevskiy Gosudarstvennyy institut usovershenstvovaniya vrachey (for Polishchuk, Umovist).

DUKARKVICH, A.S.; FEDOROV, I.I.

Preparation of dry lactate plasma. Gemat. i perel. krovi 1:83-88 '65. (MIRA 18:10)

1. Kiyevskiy institut perelivaniya krovi.

ACC NR: AP7003198

AUTHOR: Fedorov, I. I.

SOURCE CODE: UR/0213/66/006/006/1091/1092

ORG: none

TITLE: On the article by V. N. Federova and O. A. Nedoshivin entitled "Selection of a formula for computing the speed of sound in cases of mass machine processing of the materials of deep-sea hydrological observations"

SOURCE: Okeanologiya, v. 6, no. 6, 1966, 1091-1092

TOPIC TAGS: ~~physical oceanography~~, acoustic wave propagation, sound propagation, ~~ocean~~ sound velocity, data processing, oceanographic expedition, hydrology

ABSTRACT: The appropriateness of Wilson's equation for the speed of sound [J. Acoust. Soc. America, 32, N 10, 1960] in cases of machine processing of deep-sea hydrological data is acknowledged; however, its imprecise use by Fedorova and Nedoshivin [Okeanologiya, V, vyp. 2, 1965] is criticized. In their use of Wilson's equation, absolute pressure is incorrectly assumed to be hydrostatic pressure and an inexact value of 0.22 m/sec for the mean square error is used. The results of subsequent investigations by Wilson [J. Acoust. Soc. America, 34, N 6, 1962] are analyzed. In conclusion, it is noted that Wilson's formula is not an ideal equation and, as experimental measurements of the speed of sound at intermediate and great depths have shown, it requires futher refinement and a more rigid handling of the effect of depth on the

Card 1/2

UDC: 551.463.22(26)

Card 2/2

ACC NR: AP7003198

speed of sound. Orig. art. has: 1 table.

SUB CODE: 08,20/SUBM DATE: none/ ORIG REF: 002/ OTH REF: 003

Card 2/2

FEDOROV, I.L.

Remote control of the welding transformer current. Svar. proizv. no.3:34 Mr '65. (MIRA 18:5)

FEDOROV, I.M.

AUTHOR: Sherstyuk, D., Director of the Mining School # 4 in Bokovo-Antratsit. 27-1-10/19

TITLE: Betterment of Foremen's and Teachers' Qualifications (Povysheniye kvalifikatsii masterov i prepodavateley)

PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1958, # 1, pp 21-22 (USSR)

ABSTRACT: The higher general education level of the students entering professional schools, has shown that the teaching staff partially has not the professional skill and pedagogical abilities required, to educate the young generation.

The permanent methodical committees and the pedagogical council discussed the a/m deficiencies and decided to organize courses on professional teaching, they touched also the problem of mastering new technical achievements and questions of labor organization. The pedagogical collective gained big support from local trade meetings and pedagogical lectures, where the best teachers and assistant directors, in charge of the cultural-economical work exchanged their views.

Card 1/2

Betterment of Foremen's and Teachers' Qualifications

27-1-10/19

To study and get acquainted with new technical equipment, an excursion was arranged to the coal mines, where 15 masters and 4 teachers were shown the combine DU-1 and other mining machinery. Furthermore, the school staff attended lectures held by Chief-Engineer A.A.Manzhula on "The Complex Mechanization of Mines", by Engineer I.M.Fedorov on "Automation"; and by the Assistant Director V.V.Abramov on new coal combines.

AVAIALBLE: Library of Congress

Card 2/2

KRYUKOV, I.M., monter; KOROVIN, G.S., elektromekhanik; FEDOROV, I.M., elektromekhanik

Device for lifting storage battery plates. Avt., telem. i svias' 5 no.1:25-26 Ja '61. (MIRA 14:3)

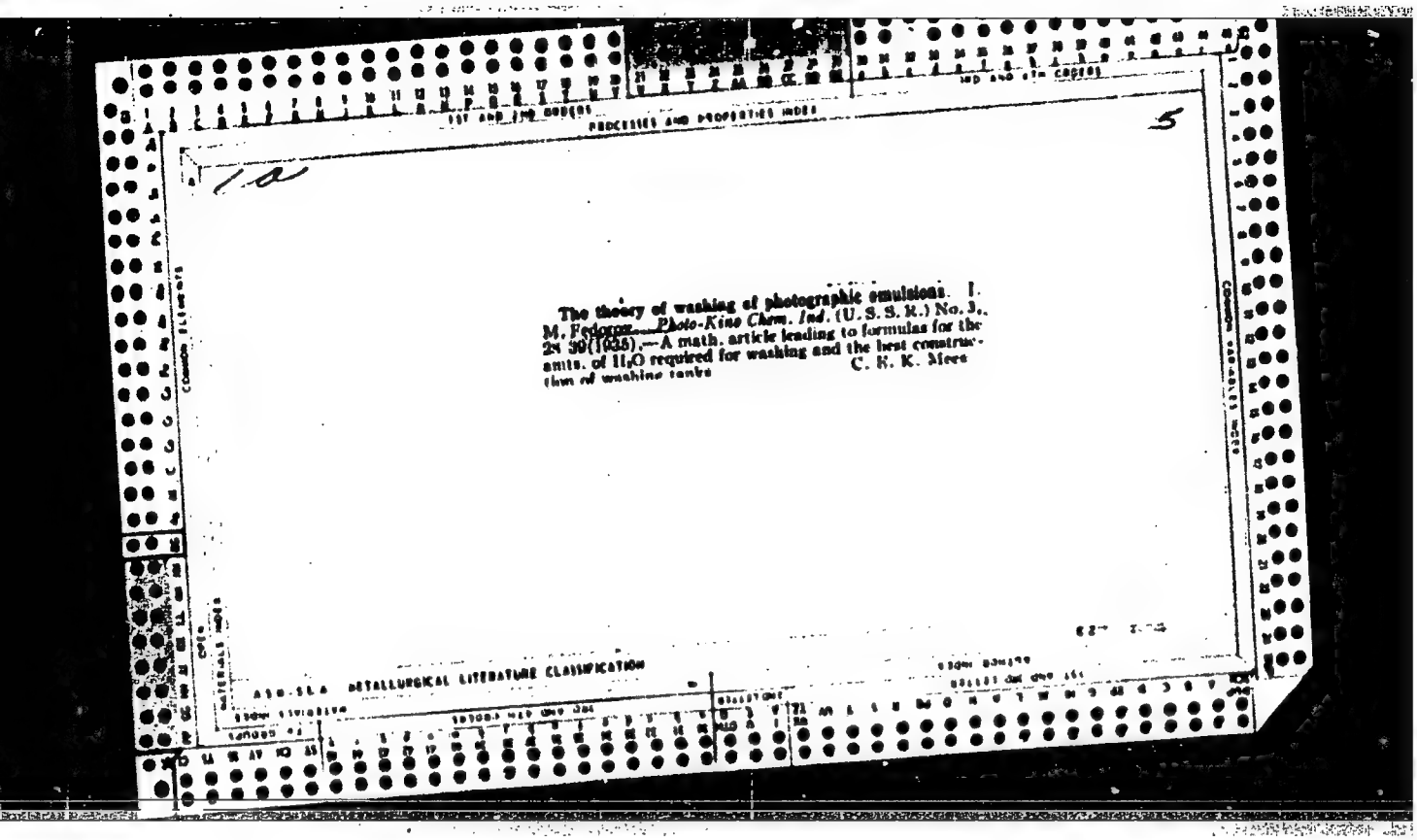
1. pushkinskaya distantsiya signalizatsii i svyazi Moskovskoy dorogi (for Kryukov).

(Storage batteries)

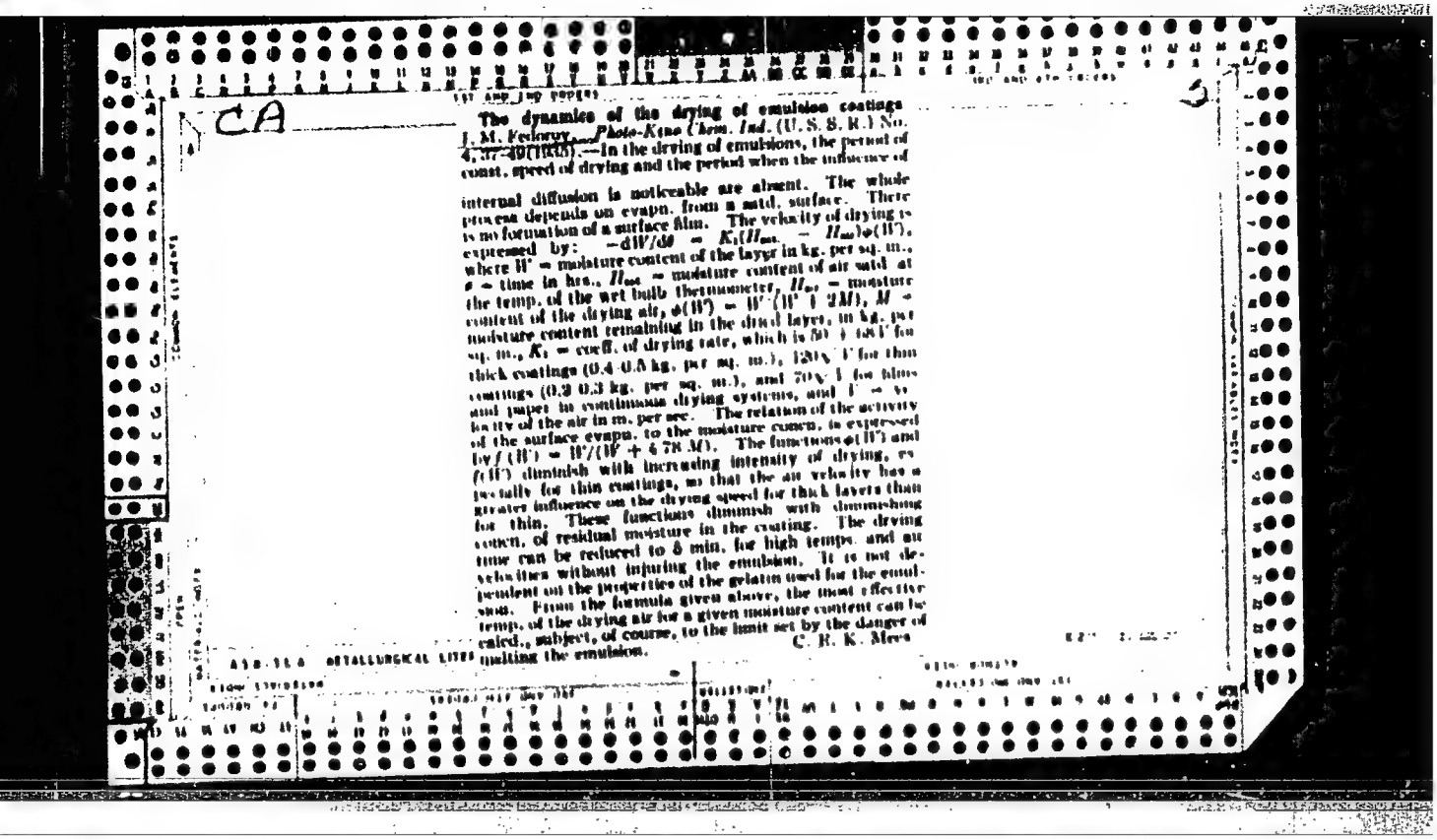
ARDASHEV, G.R.; MIKHAYLOV, I.N.; ZAMORSKIY, V.V.; DOVGICH, I.A.; SEVERNEV, I.M.; DOMAN'KOV, V.M.; Prinimali uchastiye: FEDOSOV, I.M.; KRIVENKO, P.M.; KUDRYAVTSEV, P.R.; BARABANOV, V.Ye.; BRIL', E.P., red.; PARSHIN, V.G., tekhn. red.

[Technical maintenance of the KD-35, KDP-35, and T38 tractors] Tekhnicheskii ukhod za traktorami KD-35, KDP-35 i T38. Moskva, Biuro tekhn.informatsii GOSNITI, 1962. 153 p. (MIRA 16:10)

1. Russia 1923- U.S.S.R.) Ministerstvo sel'skogo khozyzystva. 2. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy tekhnologicheskiy institut remonta i ekspluatatsii mashinno-traktornogo parka (for Ardashev, Mikhaylov, Fedosov, Krivenko, Kudryavtsev, Barabanov). 3. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Zamorskiy Dovgich). 4. Belorusskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (for Severnev, Doman'kov).
(Tractors--Maintenance and repair)



The theory of washing of photographic emulsions. I. M. Fedorov. *Photo-Kino Chem. Ind.* (U. S. S. R.) No. 3, 28–30 (1935).—A math. article leading to formulas for the amts. of H_2O required for washing and the best construction of washing tanks. C. E. K. Mees



CA

The dynamics of the drying of emulsion coatings J. M. Fedoryv. *Photo-Kino Chem. Ind.* (U. S. S. R.) No. 4, 37-49(1935).—In the drying of emulsions, the period of const. speed of drying and the period when the influence of internal diffusion is noticeable are absent. The whole process depends on evapn. from a satd. surface. There is no formation of a surface film. The velocity of drying is expressed by: $-dW/d\theta = K_1(H_m - H_\infty)\phi(H)$, where W = moisture content of the layer in kg. per sq. m., θ = time in hrs., H_m = moisture content of air satd. at the temp. of the wet bulb thermometer, H_∞ = moisture content of the drying air, $\phi(H) = H'/(H' + 2M)$, M = moisture content remaining in the dried layer, in kg. per sq. m., K_1 = coeff. of drying rate, which is 50 + 60 for thin coatings (0.4-0.5 kg. per sq. m.), 120 for thin coatings (0.2-0.3 kg. per sq. m.), and 70 for films and paper in continuous drying systems, and I = velocity of the air in m. per sec. The relation of the activity of the surface evapn. to the moisture concn. is expressed by $f(H) = H'/(H' + 6.78M)$. The functions $\phi(H)$ and $f(H)$ diminish with increasing intensity of drying, especially for thin coatings, so that the air velocity has a greater influence on the drying speed for thick layers than for thin. These functions diminish with diminishing concn. of residual moisture in the coating. The drying time can be reduced to 5 min. for high temps. and air velocities without injuring the emulsion. It is not dependent on the properties of the gelatin used for the emulsions. From the formula given above, the most effective temp. of the drying air for a given moisture content can be calcd., subject, of course, to the limit set by the danger of melting the emulsion.

C. R. K. Mees

USSR/Drying Jul 1947
Evaporation

"Evaporation During Drying at Constant Speed," I. M. Fedorov, 7 pp

"Izv VTI" No 7

Discussion of the general laws characteristic of the drying period, methods of experiments, and the coefficients of heat emission in kiln drying of materials with flat surfaces or consisting of particles of irregular form.

1454

(Engr.)

"Infrared Drying," Prom Energetika, No 2, 1948.

Central Lab.,"Dynamo" Plant im. S. M. Kirov.

FEDOROV, I. N.

D. Tech Sci

"Theory and Calculation of the Process of Desiccation in a Suspended State." Sub 21 Jun 51, Moscow Inst of Chemical Machine Building.

Dissertations presented for science and engineering degrees in Moscow during 1951.

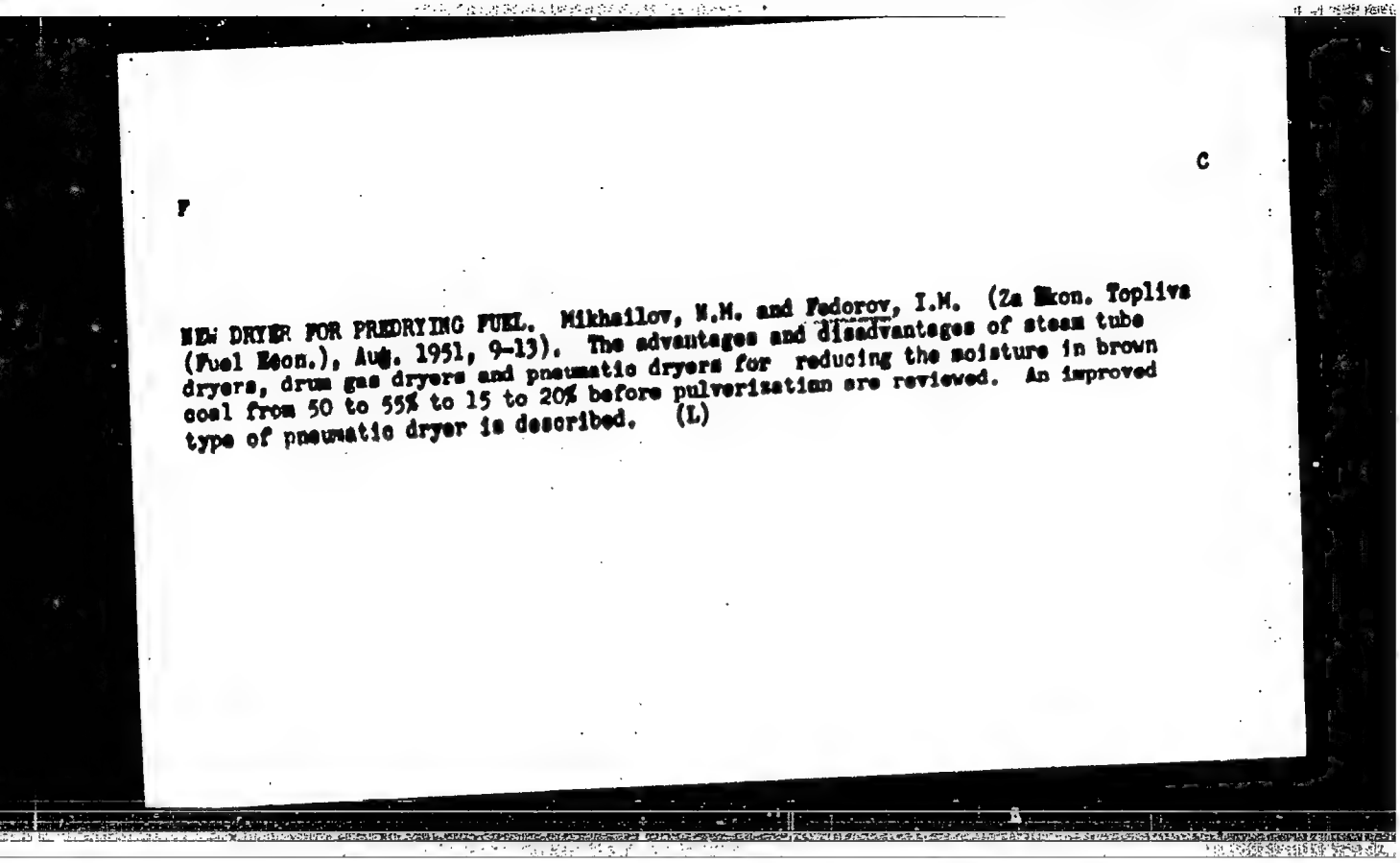
SO: Sum. No. 480, 9 May 55.

FEDOROV, I. M., MIKHAYLOV, N. M., GUDEMCHUK, V. A. and KURENOV, A. N.

"A Practical Method of Drying Fuel," Mz. VTI, 21, No.1, 1952

F

EFFICIENT CONSTRUCTION OF GRAIN DRYERS FOR AGRICULTURE. Fedorov, I.M. and Bruk, Ya. M. (Sel'khozmashina (Agric. Machine). Aug. 1951, 4-13).



C

F

NEW DRYER FOR PREDRYING FUEL. Mikhailov, N.M. and Fedorov, I.M. (Za Ekon. Topliva (Fuel Econ.), Aug. 1951, 9-13). The advantages and disadvantages of steam tube dryers, drum gas dryers and pneumatic dryers for reducing the moisture in brown coal from 50 to 55% to 15 to 20% before pulverization are reviewed. An improved type of pneumatic dryer is described. (L)

FEDOROV, Igor' Mikhaylovich; MIKHAYLOV, N.M., redaktor; VERBA, M.I., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor.

[Theory and calculation of the drying process in suspension] Teoriia i raschet protsessa sushki vo vzveshennom sostoianii. Pod red. N.M. Mikhailova. Moskva, Gos. energeticheskoe izd-vo, 1955. 175 p.
(Drying apparatus)
(MLRA 8:4)

L 08852-67

ACC NR: AP6010783 SOURCE CODE: UR/0146/66/009/001/0146/0151

AUTHOR: Alekseyev, O. G.; Fedorov, I. M. 28 B

ORG: Military Artillery Academy (Voyennaya artilleriyskaya akademiya)

TITLE: Alignment charts for calculating optimal number of spare parts

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 1, 1966, 146-151

TOPIC TAGS: system reliability, reliability ~~theory~~ engineering

ABSTRACT: The known methods of determining the probability of the fact that a given set of spare parts is sufficient (e.g., G. Black et al., Opns. Res., no. 5, 1959) require much computation work. To save time, a graphical method for calculating the optimal number of spare parts based on the steepest descent techniques is suggested. A relation is set up which shows that the number of failures of any elements will not exceed the number of available spare parts. By

Card 1/2 UDC: 518.3

FEDOROV, L.F.

S/137/61/000/011/018/123
A060/A101

AUTHORS: Chelishchev, Ye.B., Sabiyev, M.P., Abrosimov, Ye.V., Grigor'yev, V.P., Fedorov, L.F., Sukhotin, B.N.

TITLE: Metal composition at various levels of the vat of a 500-ton open-hearth furnace, and the decarbonizing of steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 11, 1961, 27-28, abstract 11V183 (V sb. "Fiz-khim. osnovy proiz-va stali", Moscow, Metallurgizdat, 1961, 5 - 11)

TEXT: In order to determine the degree of stirring and homogeneity of metal composition at various points of the vat of a 500-ton open-hearth furnace, and also to determine the possibility of a further increase of the vat dimensions, a series of metal samples was taken from 11 heats. The samples were taken with the aid of a welded box-rod affixed to the pan of a charging machine. Three chamotte molds were mounted in the box, each containing quartz crucibles with Al wire. The C content varied between the limits of 0.1 and 1.0%; O content - 0.005 to 0.03%. The altitude variation in carbon content is of no practical significance. The altitude-variation of O content is very noticeable. In the ma-

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S/137/61/000/011/018/123
A060/A101

jority of cases the O content at the upper levels of the vat is higher than that at the lower levels. In some cases at the upper levels of the vat the oxygen content is greater by a factor of 1.5 - 2.5 than at the lower ones. The authors consider that the experimental material obtained supports the viewpoint according to which the decarbonizing reaction takes place primarily at the upper levels of the metal at the metal-slag separation boundary. Samples of metal taken along the length of the 500-ton open-hearth furnace (10 heats) and of a 250-ton furnace (one heat) have shown that in the majority of cases the metal composition at any given level is practically homogeneous along the length of the vat. In individual cases sharp drops in the concentration of various elements were observed, connected with the additions of ore, Fe-Mn and other substances. In all the cases after the admixture was assimilated, the inhomogeneity of the vat content was liquidated. The distribution of the elements along the length of the 500-ton open-hearth furnace does not differ in principle from that of the 250-ton open-hearth furnace. The authors consider that a further increase in furnace capacity is possible by increasing the length and width of the vat.

V. Kudrin

[Abstracter's note: Complete translation]

Card 2/2

FEDOROV, L.F., inzh.; SHORIN, S.N., doktor tekhn.nauk, prof.

Characteristics of flow circulation in evaporating units. Khim. mash. no.3:16-19 My-Je '61. (MIRA 14:5)
(Evaporation)

FEDOROV, L.G.

AID P - 5452

Subject : USSR/Aeronautics - air maneuvers

Card 1/1 Pub. 135 - 29/31

Author : Fedorov, L. G., Lt.Col.

Title : The air force exercises "Two-sided attack"

Periodical : Vest. vozd. flota, 1, 88-92, Ja 1957

Abstract : The author on the basis of foreign aviation literature describes the course of maneuvers held by the NATO command in September 1956.

Institution : None

Submitted : No date

FEDOROV, L.

18(0)

SOV/112-59-1-1047

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, p 139 (USSR)

AUTHOR: Fedorov, L.

TITLE: Experimental Installation for Electrical Rolling of Stepped Shafts

PERIODICAL: Za industr. Ryazan'. Byul. tekhn.-ekon. inform., 1958, Nr 5, pp 22-25

ABSTRACT: In 1956, the author of the article suggested and later developed, under the guidance of Academician V. L. Severdenko, a processing chart and installation for shaping the product by electrical rolling. After preliminary tests conducted in cooperation with the Ryazan' Machine-Building Factory and with the "Krasnyy Proletariy" Plant in 1957, an experimental rolling mill was constructed on the basis of a model 1617 turning-tapping machine. A scheme and description of the experimental mill are presented. The new method can be featured by the following: (1) deforming the piece by a cross-pressure from 3 rolls arranged symmetrically with respect to the center of rotation of

Card 1/2

Experimental Installation for Electrical Rolling of Stepped Shafts

the piece; the 3 rolls can be moved along the piece axis and can be set in the transverse direction in the course of rolling; (2) local contact electrical heating of the piece by the current passed through it from the rolls; (3) driving the piece being rolled by means of a chuck or dog with an extension of the piece in the direction of rolling.

L.G.S.

SEVERDENKO, V.P.; FEDOROV, L.I.

Rate of metal shifting on contact surfaces caused by transverse rolling. Inzh.-fiz. zhur. no. 6:56-63 Je '58. (MIRA 11:7)

1. Fiziko-tekhnicheskiy institut AN BSSR, Minsk i Institut tsvetnykh metallov i zolota im. Kalinina, Moskva.
(Rolling(Metalwork))

FEDOROV, L.I.

PHASE I BOOK EXPLOITATION SOV/3756

Severdenko, Vasiliy Petrovich, and Leonid Ivanovich Fedorov

Prokatka v mashinostroyenii (Rolling in Machine Building) Minsk, Izd-vo AN BSSR, 1959. 172 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk Belorusskoy SSR.

Ed. of Publishing House: L. Mariks; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for technical personnel engaged in the machine-building industry.

COVERAGE: The authors present a theoretical and experimental treatment of cross rolling, by which term they designate the rolling method in which parallel rolls rotate in the same direction. Special installations and equipment are described, as well as the nature of the metal flow in cross rolling, metal pressure on rolls, nonuniformity of deformation in cross rolling, and the forming of nonround cross sections. The authors present results of investigations carried out during the development and experimental testing of what they describe as a new method of pressworking with simul-

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taneous electrical heating of work. No personalities are mentioned. There are 45 references: 44 Soviet and 1 German.

TABLE OF CONTENTS:

FEDOROV, L. I.: Master Tech Sci (diss) -- "Theoretical and experimental investigation of certain parameters in the process of transverse rolling". Moscow, 1959. 15 pp (Min Higher Educ USSR, Moscow Inst of Nonferrous Metals and Gold im M. I. Kalinin), (KL, No 13, 1959, 103)

KONOVALOV, Yevmeniy Grigor'yevich; BORISENKO, Aleksandr Vasil'yevich; FEDOROV, L.I., kand.tekhn.nauk, red.; TIMOFEYEV, L., red.izd-va; VOLOKHANOVICH, I., tekhn.red.

[Vibration turning] Ostsilliruiushchee tochenie. Minsk, Izd-vo Akad.nauk BSSR, 1960. 30 p. (MIRA 14:1)
(Turning)

FEDOROV, L.I., inzh.; GANICH, A.A., inzh.

Over-all automation of the charging of blast furnaces.
Mekh.i avtom.proizv. 14 no.9:12-15 S '60. (MIRA 13:9)
(Blast furnaces—Equipment and supplies) (Automation)

TAYNOV, Aleksey Ivanovich; FEDOROV, L.I., red.; MARIKS, L., red. izd-va; SIDERKOV, N., tekhn. red.

[Flat mechanisms with forward moving pairs] Mekhanizmy ploskoi sistemy s odnimi postupatel'nymi parami. Minsk, Izd-vo Akad.nauk BSSR, 1961. 180 p. (MIRA 14:12)

(Mechanical movements)

PHASE X - - - TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 691 - X

BOOK

Call No.: AF646811

Authors: DROZDOV, N. G., NIKULIN, N. V., PRIVEZENTSEV, V. A., FEDOROV, L. I., YAMANOV, S. A.

Full Title: ELECTRICAL ENGINEERING MATERIALS

Transliterated Title: Elektronaterialovedeniye

PUBLISHING DATA

Originating agency: None

Publishing House: State Power Engineering Publishing House

Date: 1954 No. pp.: 397 No. of copies: 10,000

Editorial Staff

Editor: Drozdov, N. G., Dr. Techn. Science, Professor

PURPOSE AND EVALUATION: The book is designed as a textbook for tekhnicums and schools of electrical engineering and the electrical industry but may also be used as a reference book by engineers. The book contains basic information on materials used in the electrical industry dielectrics, conductors and magnetic materials giving their properties and testing. The information is presented in great detail. Altogether the book has a considerable value for study of the materials used by Soviet industry.

NOTE: See card for DROZDOV, N. G. for pages 2-5 of abstract.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000412620012-3"

FEDOROV, L.I. (gorod Moskva)

New apparatuses manufactured under the auspices of the Main Administration of Educational Equipment Industry. Fiz.v shkole 14 no.1:94-96 Ja-F '54. (MLRA 7:1)
(Physical instruments)

FEDOROV L

AUTHORS: Fedorov, L.I., and Kramarov, B.P. (Moscow) 47-4-20/20

TITLE: New Devices of the GLAVUChTEKhPROM (Noyye pribory Glavuchtekh-proma)

PERIODICAL: Fizika v shkole, 1957, No 4, pp 93-96 (USSR)

ABSTRACT: The article contains particulars about some new devices manufactured for instructional purposes by various enterprises. The Plant for Manufacturing School Appliances (Zavod shkol'nogo priborostroyeniya) at Zagorsk is producing a telescope-refractor for use in the 10th class of secondary schools, and higher and in secondary pedagogical institutions teaching astronomy. The telescope consists of the following principal parts (Figure 1): tube with lens, ocular tube with a pull-out mechanism, and an equatorial accessory. The objective and the oculars are made of optical glass K-8 (Chrome yellow - 8), Ф-1 (flint glass -1) and БК-6 (barium chromate). The article supplies further data. The Factory "Elektropribor", Moscow, manufactures voltage regulators РНШ-56 and РНШ-55 (Figures 3 and 4). They differ favorably from othe transformers and autotransformers in so far as they enable a smooth regulation of voltage, starting from 0 to 250 v by 1.5 - 2 v. The maximum capacity is 2 kw for РНШ-55 and 0.44 kw for РНШ-56 .

Card 1/2

New Devices of the GLAVUChTEKhPROM 47-4-20/20

The article gives additional particulars. The Plant "Elektrodelo", Leningrad, has started to issue radio engineering devices: detector receivers, amplifiers for low frequency, electro-dynamic loudspeakers in a socket, and demonstration lamp panels. They are intended to supplement sets consisting of an ultra-short wave generator, resonance circuit, and a receiving dipole antenna. Further particulars may be seen in the article. In order to demonstrate dying and continuous oscillations in a circuit consisting of capacitance and self-induction, the "Elektrodelo" Plant has produced a condenser battery made of paper condensers of the type КБТ-МН with a capacitance of 0.5 - 2 microfarad, and a general capacitance of 58 microfarad (Figure 7). By means of an ordinary switch, combinations of condensers may be composed with the following capacitance: 0.5; 1.0; 1.5; 4.0; 8.0; 16.0; 32.0 and 58.0 microfarad. The article contains 5 figures and 2 circuit diagrams.

AVAILABLE: Library of Congress

Card 2/2

ALEKSANDROV, A.G., dots; ARONOVICH, I.S., inzh.; BABIKOV, M.A., doktor tekhn.nauk; BATUSOV, S.V., kand.tekhn.nauk; BEL'KIND, L.D., doktor tekhn.nauk; VENIKOV, V.A., doktor tekhn.nauk; VESELOVSKIY, O.N., kand.tekhn.nauk; GOLOVAN, A.T., doktor tekhn.nauk; GOLUBTSOVA, V.A., doktor tekhn.nauk; GREYNER, L.K., inzh.; GRUDINSKIY, P.G., prof.; GUSEV, S.A., inzh.; DMOKHOVSKAYA, L.F., kand.tekhn.nauk; DROZDOV, N.G., doktor tekhn.nauk; IVANOV, A.P., doktor tekhn.nauk [deceased]; KAGANOV, I.L., doktor tekhn.nauk; KEHBER, L.L., inzh.; KOCHENOVA, A.I., kand.tekhn.nauk.; LARIONOV, A.N.; MINOV, D.K., doktor tekhn.nauk; MNTUSHIL, A.V., doktor tekhn.nauk; NIKULIN, N.V., kand.tekhn.nauk; NILENDER, R.A., prof.; PANTYUSHIN, V.S., prof.; PASYNKOV, V.V., doktor tekhn.nauk; PETROV, G.N., doktor tekhn.nauk; POLIVANOV, K.M., doktor tekhn.nauk; PRIVEZENTSEV, V.A., doktor tekhn.nauk; RADUNSKIY, L.D., inzh.; RENNE, V.T., doktor tekhn.nauk; SVENCHANSKIY, A.D., doktor tekhn.nauk; SOLOV'YEV, I.I., doktor tekhn.nauk; STUPEL' F.A. kand.tekhn.nauk; TALITSKIY, A.V., prof.; TEMNIKOV, F.Ye., kand.tekhn. nauk; FEDOROV, L.I., inzh.; FEDOSEYEV, A.M., doktor tekhn.nauk; KHOLYAVSKIY, G.B., inzh.; CHECHET, Yu.S., doktor tekhn.nauk; SHNEYBERG, Ya.A., kand.tekhn.nauk; SHUMILOVSKIY, N.N., doktor tekhn.nauk; ANTIK, I.B., red.; MEDVEDEV, L.Ya., tekhn.red.

[The history of power engineering in the U.S.S.R. in three volumes] Istoriia energeticheskoi tekhniki SSSR v trekh tomakh. Moskva, Gos. energ. izd-vo.

(Continued on next card)

ALEKSANDROV, A.G.--(continued) Card 2.

Vol.2. [Electric engineering] Elektrotekhnika. Avtorskii kollektiv toma: Aleksandrov i dr. 1957. 727 p. (MIRA 11:2)

1. Moscow. Moskovskiy energeticheskiy institut. 2. Chlen-korrespondent AN SSSR (for Larionov)
(Electric engineering)

FEDOROV, L.I., inzh. (Moskva)

Design of oil-filled inltes. Elektrichestvo no.2:68-73 F '61.
(MIRA 14:3)
(Electric apparatus and appliances) (Insulating oils)

FEDOROV, L. N.

USSR/Physics - Magnetic Saturation Jul/Aug 52

"Dependence on Temperature of Magnetic Saturation of Binary Ferronickel Alloys at Low Temperatures," Ye. Kondorskiy and L. N. Fedorov, Cent Sci-Res Inst of Ferr Metallurgy

"Iz Ak Nauk, Ser Fiz" Vol 16, No 4, pp 432-448

Study of effect of thermal treatment on magnitude of magnetic satn of binary ferronickel alloys. Finds that the "law of two thirds" satisfactorily describes the thermal dependence of alloys of permalloy type at various concns.

3 241T88

Fedorov, L.N.

KURAYEV, A.V.; SEMENKOV, P.L.; BLEYZ, N.G.; BULAVA, V.P.; VYAZ'MIN, V.A.; GOLUBEV, B.S.; DYSHMAN, B.M.; KARKLIN, B.S.; KAYUKOV, G.I., KUGEL', N.V.; MASHATIN, V.I.; RAGUSKAYA, L.F.; RUBINSHTEYN, S.M.; SHTRANOV, A.B.; TARASOV, L.A.; FEDOROVA, A.A.; FEDOROV, L.N.; TSEPKIN, M.F.; SHAYEVICH, A.G.; VASIL'YEVA, I.A., red. izd-va; TIKHANOV, A.Ya., tekhn. red.

[ZIL-158 and ZIL-158A motorbuses; instructions for operation] Avtobusy ZIL-158 i ZIL-158A; instruktsiia po ekspluatatsii. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 193 p.
(MIRA 11:7)

1. Moskovskiy avtomobil'nyy zavod.
(Motorbuses)

NOVIK, M.G.; FEDOROV, L.N.; SHERDUKALOVA, L.F.

Immediate method of determining the tension of oxygen and carbon dioxide in arterial blood. Zhur. eksp. i klin. med. 3 no.2: 71-76'63. (MIRA 16:10)

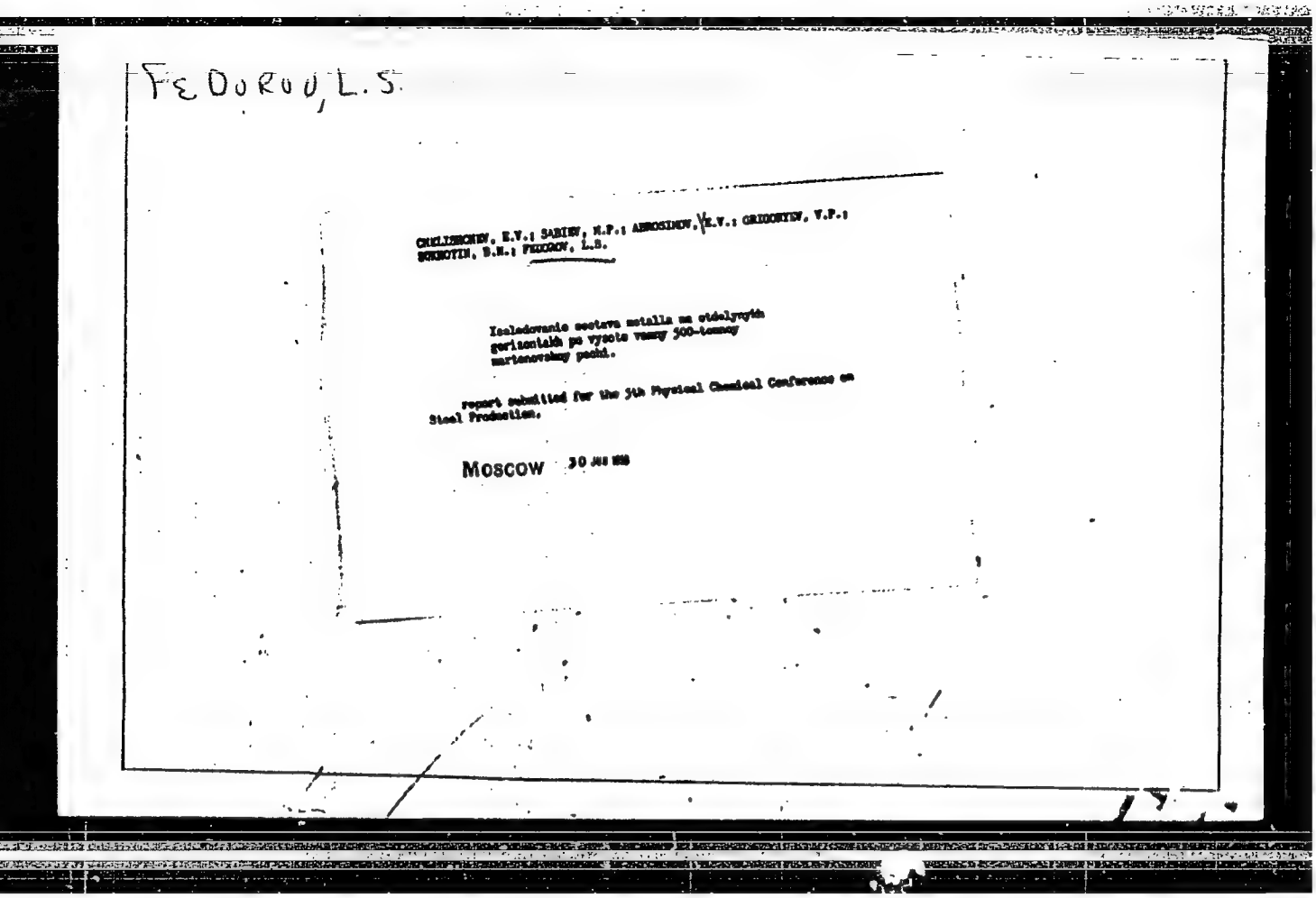
1. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR.
(BLOOD, GASES IN)

BYKASOV, O.P.; FEDOROV, L.N.

Modernization of the APM-54 automatic alarm system. Inform. sbor. TSNIIMF no.85 Sudovozh. i sviaz' no.22:72-85 '63. (MIRA 17:3)

POPLKHIN, M.M., inzh.; FEDOROV, L.N., inzh.

Ninth Scientific and Technical Conference of Moscow and Moscow region welders. Svar. proizv. no.7:41-43 J. '64.
(MIRA 18:1)



FEDOROV, L.S.

CHULIBKIN, E.V.; SABIN, N.P.; ABROSIMOV, K.V.; GRIGORYEV, V.P.; SOKHOTIN, B.N.; FEDOROV, L.S.

Issledovanie sostava metalla na otdelnykh gorizontakh po vysote vanny 300-tonnoy martenovskoy pechi.

report submitted for the 5th Physical Chemical Conference on Steel Production.

MOSCOW 30 JUN 1958

FEDOROV, L.S.

Apparatus for locating nonmagnetic foreign bodies in the body. Med.prom. 13 no.3:55-59 Mr '59. (MIRA 12:5)

1. Nauchno-issledovatel'skiy institut meditsinskoy tekhniki Chekhoslovatskoy Respubliki.
(MEDICAL INSTRUMENTS AND APPARATUS) (FOREIGN BODIES)

VOROBTSOV, V.N.; LIKTER, I.N.; FEDOROV, L.S.

Automatic prevention of the discharge of bitumen in oxidation.
Nefteper. i neftekhim. no.9:36 '64. (MIRA 17:10)

1. Angarskiy neftepererabatyvayushchiy zavod.

FEDOROV, L. T.

DECEASED
c/ 1963

1964

HYDROLOGY

FEDOROV, L.

A 4/49T73

USSR/Radio Receivers, Battery Apr 49
Radio Equipment

"Five-Watt Battery Unit," L. Fedorov, 6 pp

"Radio" No 4

Describes general characteristics, operation, and performance of 5-watt battery-powered radio set manufactured by the Moscow Radio Works (Director: Baranov). This set is characterized by low drain requirements, simplicity of construction, and use of standard parts.

4/49T73

FEDOROV, L. PA 150T106

USSR/Radio - Vacuum Tubes, Kinescope Circuits, Oscillator Oct 49

"Kinescope Supply From a High-Frequency Generator," V. Genishta, L. Fedorov, 3 pp

"Radio" No 10.

Kinescope supply is usually obtained from a sweep generator or a high-voltage rectifier instead of a high-frequency generator because of difficulties involved in making high-quality coils for the latter. Gives construction details and specifications for the oscillator circuit, which is similar to the usual self-excited oscillator circuit with a feedback transformer. A 6P3 or a 6V6 and a 1Ts1 rectifier are used in circuit described.

PA 150T106

1. FEDOROV, L.

2. USSR (600)

4. Moving-Picture Projectors

7. 16-KPZL-1 amateur narrow-film sound projector. Kinomekhanik, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BABKIN, Nikolay Ivanovich; FEDOROV, L.N., otvetstvennyy redaktor; TROITSKIY, L.V., redaktor; SUSHKEVICH, V.I., tekhnicheskiy redaktor

[Repairing the KVN-49 television set] Remont televizorov KVN-49. Moskva, Gos. izd-vo lit-ry po voprosam sviazi i radio, 1957. 116 p. (Television--Receivers and reception) (MLRA 10:7)

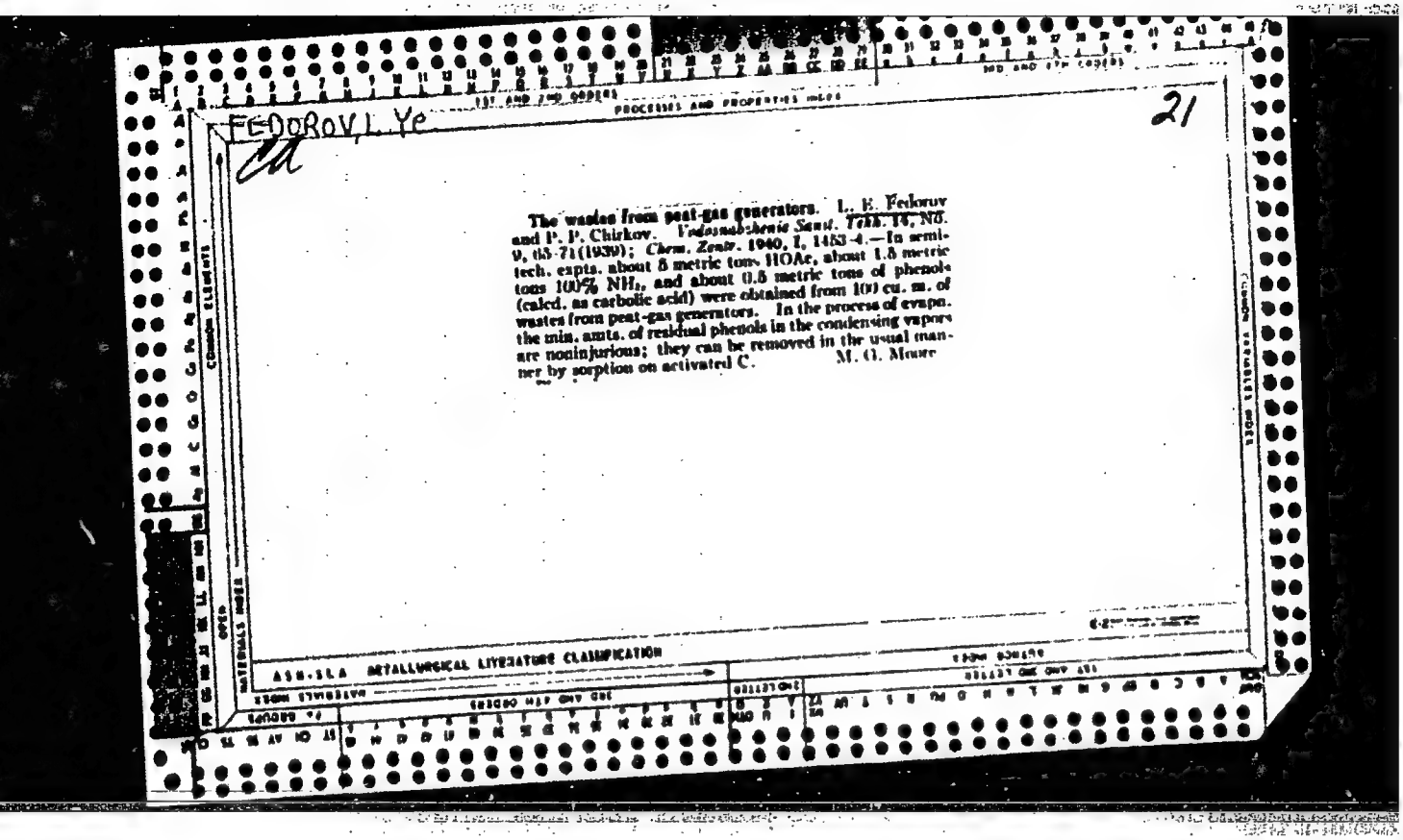
FEDOROV, L.

New radio and television broadcasting equipment. Radio no.3:20 Mr '57. (MLRA 10:5)

(Radio--Apparatus and supplies)
(Television--Apparatus and supplies)

FEDOROV, Leonid Vasil'yevich; OVCHARENKO, Ye.P., red.; VORONIN, K.P., tekhn. red.

[Television equipment at the 1960 Exhibition of the Achievements of the National Economy of the U.S.S.R.] Televizionnaia apparatura na VDNKh; ekspozitsiia 1960. Moskva, Gos. energ. izd-vo, 1960. 79 p. (Massovaia radiobiblioteka, no.403) (MIRA 14:7)
(Television—Exhibitions) (Moscow—Exhibitions)



FEDOROV, I. Ye

21

The wastes from peat-gas generators. I. E. Fedorov and P. P. Chirkov. *Fedosnabzhenie Sanit. Tekh.* 16, No. 9, 65-71 (1939); *Chem. Zentr.* 1940, I, 1483-4.—In semi-tech. expts. about 5 metric tons HOAc, about 1.5 metric tons 100% NH_3, and about 0.5 metric tons of phenols (calcd. as carbolic acid) were obtained from 100 cu. m. of wastes from peat-gas generators. In the process of evapn. the min. amts. of residual phenols in the condensing vapors are noninjurious; they can be removed in the usual manner by sorption on activated C. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

FEDOROV, L. Ye.

"Storage of Highly Combustible Coal in Metallurgical Plants," Moskva, Metallurgizdat, 1951

FILOROV, L.Ye., inzh.

Argon-arc welding of aluminum busducts. Vest. elektroprom. 29 no.4: 52-54 Ap '58. (MIRA 11:4)

1. "Orgenergostroy," Leningradskiy filial.
(Bus conductors (Electricity))
(Aluminum—Welding) (Electric welding)

FEDOROV, M., starshiy mekhanik teplokhoda "Vil'nyus."

Prolonging the life of a ship's machinery. Mor. i rech.flot 14 no.9:11-12 S '54. (MLRA 7:10)
(Marine engines)

FEDOROV, M.

Make full use of nickel anodes. Prom.koop.no.3:23 Mr '56.
(MIRA 9:7)

1.Glavnyy inzhener arteli "Prizyv".
(Nickel-plating)

FEDOROV, M.

Four hundred and seven thousand of them. Nauka i zhyttia 11 no.7:49 Jl '61. (MIRA 14:8)
(Ukraine--Technical innovations)

ZHURAVLEV, A., arkhitektor; FEDOROV, M., kand.arkhitektury

House built from prefabricated apartments. Nauka i zhizn' 28 no.1:60-61 Ja '61. (MIRA 14:1)
(Buildings, Prefabricated)

FEDOROV, M., podpolkovnik; KHOLODOV, N., leytenant

Our experience in party and political work at bridging operation in winter. Voen.-inzh. zhur. 101 no.1:8-12 Ja '58. (MIRA 11:2)

(Communist Party of the Soviet Union--Party work)
(Pontoon bridges) (Winter warfare)

USSR/Zooparasitology - Helminths. G.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67497

Author : Bogdanov, O.P., Markov, G.S., Fedorov, M.

Inst : Academy of Sciences UzSSR.

Title : A Systematic Review of the Parasitic Worms of Agamous, Anguinous, Skink, and Several Other Central Asian Lizards.

Orig Pub : Izv. AN UzSSR, ser. biol., 1957, No 2, 65-71.

Abstract : In 83 infected lizards of 10 species, 21 species of helminths were discovered. The ecologically similar representatives of different genera of agamous lizards -- the steppe agama and the big-eared round-head -- have the greatest number of parasites in common. The ecologically further distant representatives of one genus -- the steppe and Caucasian agamae -- had no parasitic worm species in common. In the helminthofauna of agamous lizards adapted

Card 1/2

FEDOROV, M.

Exposure distribution throughout the image. Sov.foto 21 no.9: 30-31 S '61. (MIRA 14:9)

(Shutters, Photographic)

FEDOROV, M., tekhnik-leytenant putei i stroitel'stva; SHLEPINA,M., red. MALEK,Z.,tekhn.red.

[For comprehensive savings in building materials] Za kompleksnuiu ekonomiiu stroitel'nykh materialov. Moskva, Profizdat, 1952. 34 p. (MIRA 16:8)

1. Kamenshchik vtoroy kontory Upravleniya stroitel'stva mnogoetazhnykh zdaniy Ministerstva putey soobshcheniya (for Fedorov).

(Building materials)

KAZARINOVA, V., kand.arkhitektury; FEDOROV, M., kand.arkhitektury

Composition; basic categories and regularities. Tekh.est. 2 no.12:2-7 D '65.

(MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekhnicheskoy estetiki Gosudarstvennogo komiteta Soveta Ministrov SSSR.

S/194/62/000/004/050/105
D295/D308

AUTHORS: Starobinskiy, N. M. and Fedorov, M. A.

TITLE: High-frequency semiconductor wattmeter

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 4, 1962, abstract 4-5-27e (V sb. Prom. primeneniye ul'trazvuka. Kuybyshevsk. aviats. in-t. Kuybyshev, 1961, 14-28)

TEXT: Various transducers for high-frequency wattmeters are briefly analyzed for the purpose of using wattmeters for the measurement of the output power of ultrasonic electric generators. In such circuits, use of semiconductor point-contact diodes and insertion of the magnetoelectric indicator in the diagonal of a ring-type transducer is recommended. Thus the circuit has small consumption, is not sensitive to overloads, has a wide range of voltages and frequencies, etc. A circuit diagram of a combined volt-wattmeter, using point-contact semiconductor diodes, is given. In this circuit the mean current of the indicator is proportional to

Card 1/2

S/194/62/000/004/050/105
D295/D308

High-frequency semiconductor ...

power and is independent of current and voltage waveforms. 12 references. [Abstracter's note: Complete translation.]

Card 2/2

FEDOROV, M.A. (Gor'kiy)

A foreman of a "communist labor workshop." Elek. i tepl. tiaga 6 no.11:19 N '62. (MIRA 16:1)

(Electric railroads--Employees)

1. FEDOROV, M.A.

2. USSR (600)

4. Electric Motors

7. Producing a wedge-shaped clearance during the boring of bearings of electric motors, Rab.energ. 3 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

FEDOROV, M.

We are reducing the management personnel of the transshipment base in Kustanay. Muk.-elev.prom. 30 no.1:28 Ja '64. (MIRA 17:3)

1. Starshiy inspektor po kadram Kustanayskoy perevalochnoy bazy.

PETYAYEV, S. I.; FEDOROV, M. A.

Apsheron - Olive

Methods for accelerated propagation of the olive on Apsheron. Dost. sel'khoz. No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

FEDOROV, M.A.

MIDV

The selection of pomegranates for juice production. M. A. Fedorov. *Trudy Vsesoyus. Nauch.-Issledovatel. Inst. Konservnoi Prom.* 1953, No. 2, 180–6; *Referat. Zhur., Biol.* 1955, No. 6177.—Determining factors are the vol. of juice, sugar, acid, tannin content, and coloring substances. The better juices contain 0.8–0.9% acid and 12% sugar. Attention must be given to phenologic phase fixation.

B. S. Levine

FEDOROV, M.A. kandidat sel'skokhozyaystvennykh nauk

Curious case of self-grafting between an oak and an aspen.
Priroda 44 no.5:114-115 My '55. (MLRA 8:7)

1. Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva i agrolesomelioratsii
(Kharkov--Grafting)

USSR/Cultivated Plants - Fruits. Berries. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82519

Author : Fedorov, M.A.

Inst : Ukrainian Scientific Research Institute of Forestry and Agricultural Forest Melioration

Title : Management in Hazelnut Forests.

Orig Pub : Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t lesn. kh-va i agrolesomelior., 1957, No 3-4, 22-27

Abstract : In the forests of the State forest reserves of Ukrainina Soviet Socialist Republic, the area under hazelnut woods (Corylus acellana L.) exceeds 300 thousand hectares. About 60% of this area is situated within the boundaries of the forest steppe zone, including up to 30% in the region of the Left Shore forest steppe where hazelnut has been adapted for groves. In 1954-1955 expeditions of

Card 1/2

USSR/Cultivated Plants -Fruits. Berries. M

Abs Jour : Ref Zhur Biol., No 18, 1958, 82519

Lesproyekt in 20 oblasts of Ukrainina SSR surveyed 309.6 thousand hectares of hazelnut forest and segregated from them 64 thousand hectares for special management for the nuts. In 1955-1956 a complex of forest growing measures promoting the productivity of the hazelnut tree was worked out atthe Ukrainina Scientific Research Institute of Forestry and Arboculteral Melioration, Recommended are: clearing areas from windfall and debris and cutting the undergrowth and part of the brush of the secondary wood species hindering the development of hazelnut. The crowded hazelnut plantations are thinned out so that the ends of the branches touch each other but no windows are formed. Care of the shrubs is carried through. The corridor method of introducing the principal varieties is recommended. Systems of temporary and permanent management in hazelnut forests are described. -- I.K. Fortunatov

Card 2/2

FEDOROV, M.A.

Arboretum in the Bol'she-Danilovsk Forest Working Circle.
Biul.Glav. bot. sada no.39:17-25 '60. (MIRA 14:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva i agrolesomelioratsii, Khar'kov.
(Kharkov Province—Arboretums)

L 05786-67 EWT(1)

ACC NR: AP6031455 SOURCE CODE: UR/0056/66/051/002/0683/0687

28
B

AUTHOR: Larkin, A. I.; Ovchinnikov, Yu. N.; Fedorov, M. A.

ORG: Moscow Physicotechnical Institute (Moskovskiy fiziko-tekhnicheskiy institut)

TITLE: Boundary condition of the Josephson effect

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 683-687

TOPIC TAGS: approximation method, functional equation, tunnel effect, Hamiltonian, Josephson effect

ABSTRACT: A boundary condition is obtained for the Josephson effect in the quasi-classical approximation from the Gor'kov equations. The results of the investigation are in agreement with those in earlier studies in which the effect was analyzed by means of the tunneling Hamiltonian. The authors thank L. P. Gor'kov for his valuable advice. Orig. art. has: 20 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 31Mar66/ ORIG REF: 002/ OTH REF: 005/

Card 1/1 egs

PA 34/49T45

USSR/Medicine - Bacteria, Azotobacter Nov/Dec 48
Medicine - Bacteria, Action

"Fixation of Molecular Nitrogen by Azotobacter in the Presence of Amide and Amino Acid," M. B. Fedorov, Moscow Agr Acad imeni K. A. Timiryazev, 9½ pp

"Mikrobiologiya" Vol XVII, No 6

Mineral forms of fixed nitrogen can be assimilated by azotobacter. Therefore their presence in soil solution will lower nitrogen fixation activity of this organism. Nitrogen of amides is not assimilated by azotobacter. Amine nitrogen of various

34/49T45

USSR/Medicine - Bacteria, Azotobacter Nov/Dec 48
(Contd)

amino acids is also inaccessible to azotobacter. Describes effect of aspartic and glutamic acids. Submitted 28 Apr 48.

34/49T45

FEDOROV, M.B.

The TSBU-300-ZIV motor-driven boring unit. Biul.tekh.-ekon. inform. no.3:3-5 '60. (MIRA 13:6)
(Boring machinery)

28434
S/185/61/006/002/006/020
D210/D304

21.6000

AUTHORS: Vlasov, M.F., Fedorov, M.B., and Vertebnyy, V.P.

TITLE: Methane diffusion cloud chamber for neutron spectrometry

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 2, 1961, 186 - 190

TEXT: In this article the authors describe the constructions and operation of a methane diffusion cloud chamber for spectrometry of neutrons of energy 1 to 3 MeV. The construction of the chamber is shown. The chamber was operated at one atmosphere of methane using methanol for diffusion, giving a sensitive volume of 3 cm high by 20 cm diameter. The electrodes are made of two screens connected together and kept at a potential of 1kV relative to the base plate and the methanol groove. The flow of the cooling liquid nitrogen and the methanol temperature were controlled automatically to give base plate and methanol temperatures -70 and 10°C respectively, to

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Methane diffusion cloud ...

within ± 0.5°C. The chamber was operated by means of an electronic arrangement, given in the original paper, which starts the neutron generator, switches on the electric field and the pulse lamps, and winds the photographic film in the required sequence. The chamber was tested by analyzing the neutron spectrum from the D(d, n) reaction in the direction of the denterium beams of 150 keV energy, and the dispersion of the apparatus was found to be 8 % half-intensity. There are 5 figures.

ASSOCIATION: Instytut fizyky AN URSR, m. Kyyiv (Institute of Physics, AS UkrSSR, Kiyev)

SUBMITTED: August 22, 1960

Card 2/2

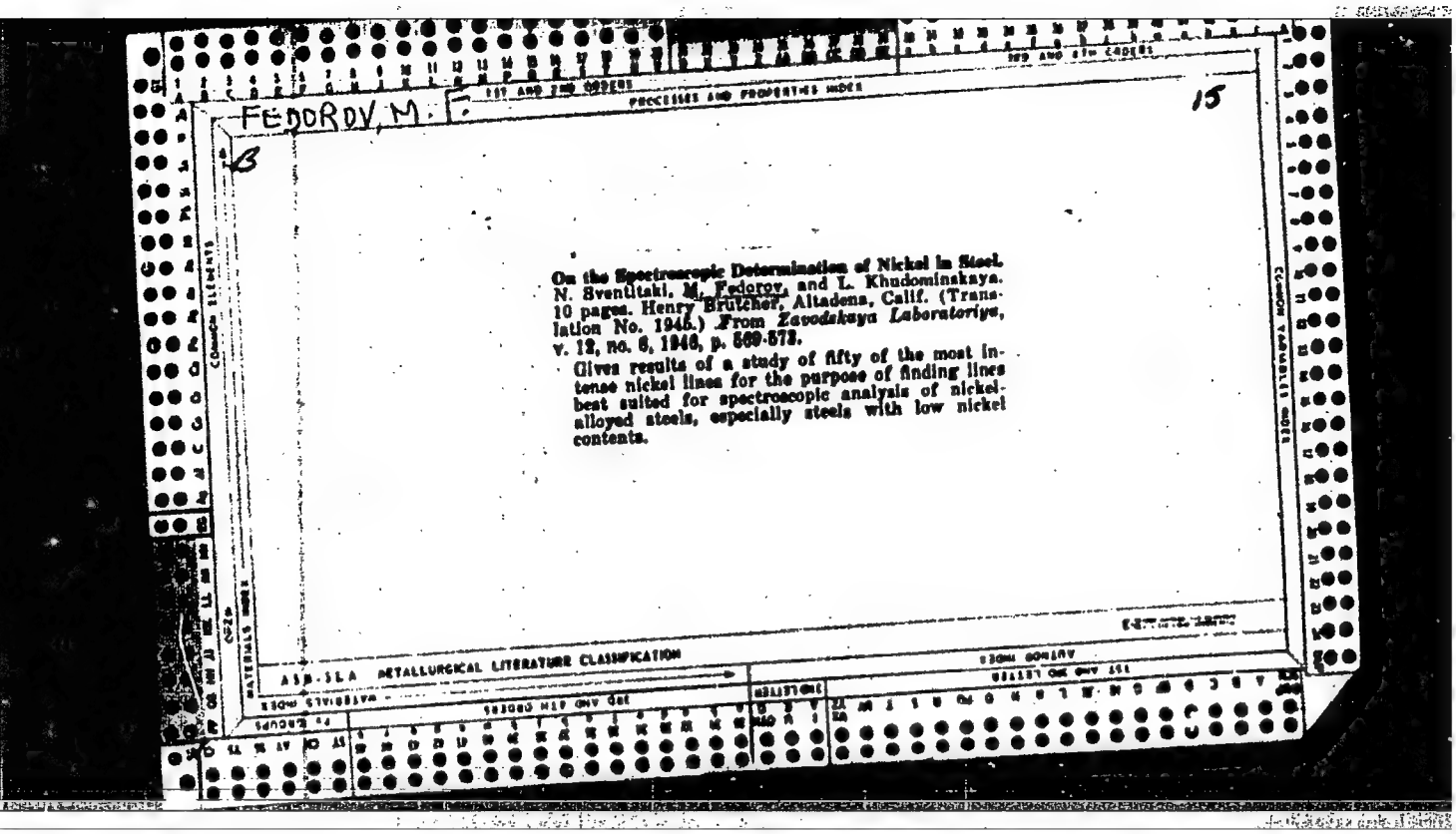
LISNYANSKAYA, M.G.; FEDOROV, M.F.

Quantitative determination of lithium by the spectral method. Obog. rud. 8 no.3:41-43 '63. (MIRA 17:1)

VOLOKHOV, A.N.; VOROB'YEV, A.A.; FEDOROV, M.F.; CHERTOV, A.G., dots.; DUBOV, V.P., dots., retsenzent; ARTEMOVA, T.I., red.; TUPITSYNA, L.A., red.

[Problems in physics with examples of their solution and reference materials] Zadachnik po fizike s primerami resheniia zadach i spravochnymi materialami. Petrozavodsk, Rosvuzizdat, 1963. 399 p. (MIRA 17:6)

1. Moskovskiy poligraficheskiy institut (for Dubov).



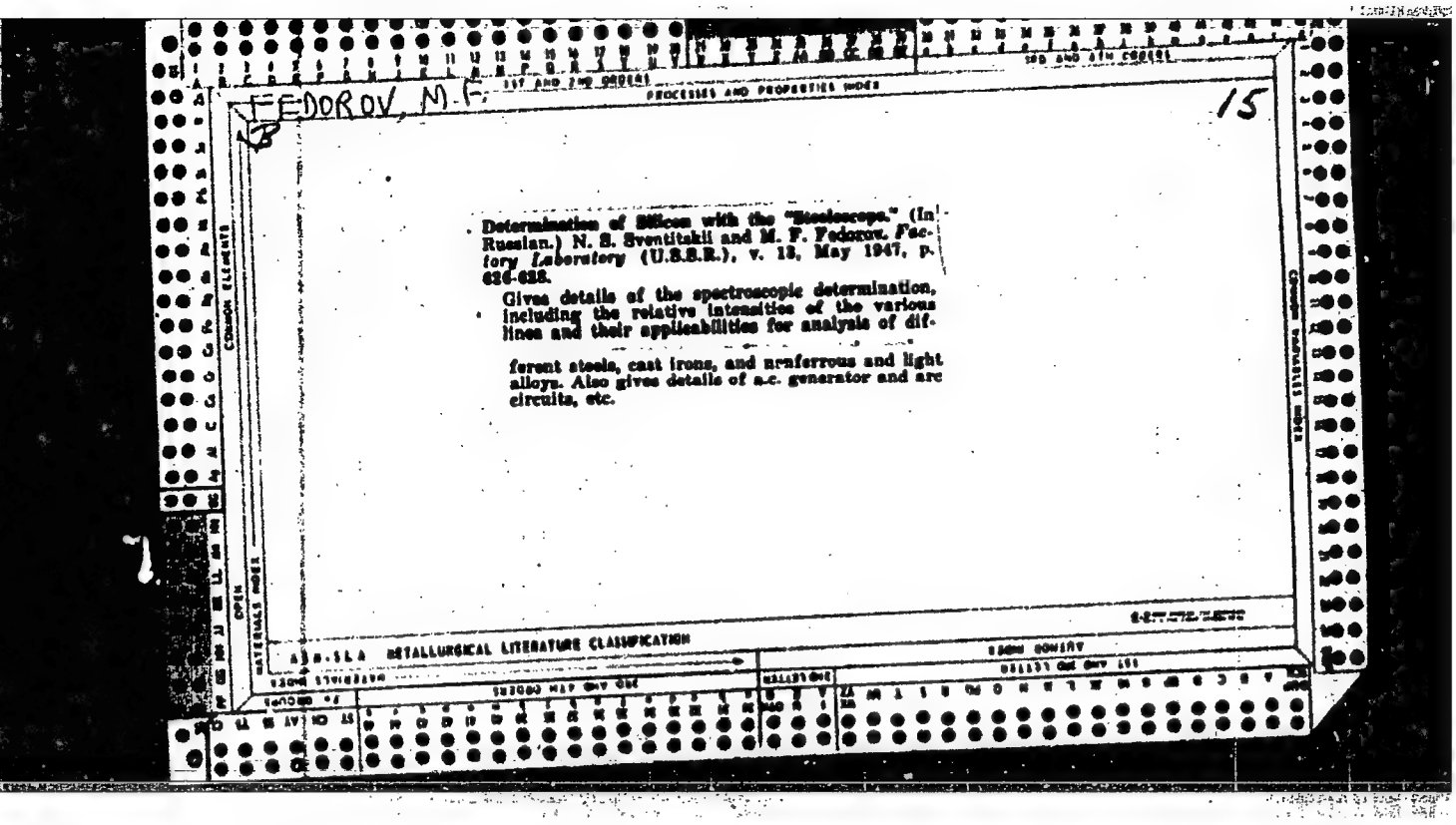
FEDOROV, M.

15

On the Spectroscopic Determination of Nickel in Steel. N. Sventitski, M. Fedorov, and L. Khudominskaya. 10 pages. Henry Brutcher, Altadena, Calif. (Translation No. 1946.) From *Zavodskaya Laboratoriya*, v. 12, no. 6, 1946, p. 669-672.

Gives results of a study of fifty of the most intense nickel lines for the purpose of finding lines best suited for spectroscopic analysis of nickel-alloyed steels, especially steels with low nickel contents.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



FEDOROV, M.F.

15

Determination of Silicon with the "Steeloscope." (In Russian.) N. S. Sventitskii and M. F. Fedorov. *Factory Laboratory* (U.S.S.R.), v. 13, May 1947, p. 626-628.

Gives details of the spectroscopic determination, including the relative intensities of the various lines and their applicabilities for analysis of different steels, cast irons, and nonferrous and light alloys. Also gives details of a.c. generator and arc circuits, etc.

FEDOROV, M. F.

USSR/Minerals - Spectral analysis

Card 1/1 Pub. 43 - 76/97

Authors : Gruzdeva, N. I.; Doronina, V. N.; and Fedorov, M. F.

Title : Quantitative spectral analysis of low-grade ore concentration products

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, 289-290, Mar-Apr 1954

Abstract : The results obtained during quantitative spectral analysis of low-grade ore concentration products are briefly summarized. The method applied in carrying out the analysis is explained.

Institution : The "MEKHANOBR" Institute

Submitted : .....

SULTANOV, A.S.; FEDOROV, M.F.; FREYDLIN, L.Kh.

Reduction of acetaldehyde, acetone, and cyclohexanone on zinc-copper catalysts. Izv. AN Uz. SSR. Ser. khim. nauk no.4:91-94 '57. (MIRA 11:9)

(Reduction (Chemical)) (Aldehydes) (Ketones)

SOV/96-58-8-4/22

AUTHOR: Fedorov, M.F. (Candidate of Technical Science)

TITLE: An improved integral method for the experimental determination of the discharge coefficients of nozzle blades (Usovershenstvovannyy integral'nyy metod eksperimental'nogo opredeleniya koeffitsiyentov rashoda soplovykh lopatok)

PERIODICAL: Teploenergetika, 1958, Nr 8, pp 16-20 (USSR)

ABSTRACT: It has been found with certain types of nozzle profiles, notably C-1 and TN-2, that for comparatively small outlet angles differences of 10% can occur between the calculated and experimental values of discharge of turbine flow paths designed on the basis of static tests on blade profiles. As the tests are very laborious when the blades are not of uniform pitch and height, it is advisable to use the integral method in making corrections to the discharge factors. Before the pneumometric method became popular, the integral method was used, and determination of the rate of flow of working substance was an essential part of the test. There is now a tendency to revert to the integral method. In the installation described by Baranov & Deych

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SOV/96-58-8-4/22

An Improved Integral Method for the Experimental Determination of the Discharge Coefficients of Nozzle Blades

in Teploenergetika Nr 3, 1957, flow-factors are determined on straight-blade grids with a small number of channels. That article describes the influence of the number of channels on the results. The main problem with the integral method is, of course, to relate the results obtained with a grid having a small number of blades to the conditions of an infinite grid. The present article considers ways of doing this. One method excludes the distortions introduced by the edge channels into the experimental discharge coefficients; the second method compensates for the distortions by creating artificial flow conditions on the flow boundaries beyond the edge channels. This latter method is based on the experimental fact that the rate of flow into a stationary medium is greater when the number of channels is small than when it is infinite. A schematic diagram of the installation used to determine the discharge coefficients of nozzle profiles is shown in Fig 1. A measured quantity of air is blown through a long tube. Outside the blades under

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An Improved Integral Method for the Experimental Determination of the Discharge Coefficients of Nozzle Blades

test are compensating blades used to adjust the air-flow conditions at the edges of the flow through the blades being studied. Arrangements are made to adjust the air-flow through the compensating blades without altering flow conditions through the blades under test. The equipment is described. The special features of operation of the compensating channels, on which the methods of approximating to an infinite grid are based, can be followed from the graphs given in Fig 2 of distribution of flow outlet angles and total and static pressure across the grid. These graphs correspond to two cases of flow through five blades; in the first case no air is passed to the compensating blades, and in the second a suitable air pressure is maintained behind them. The air pressure that is maintained in the compensating channels is such that the total retardation pressure in the flow beyond the middle channel under investigation p_{o2}, is the same as p_{ok} in the flow in the compensating channels. It will be seen from the graphs in Fig 2 that if p_{o2} is maintained constant and p_{ok}

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An Improved Integral Method for the Experimental Determination of the Discharge Coefficients of Nozzle Blades

is widely varied there is hardly any change in the flow structure beyond the central channel under investigation. The general picture remains unaltered when additional channels are used provided that the ratio p_{ok}/p_{o2} is maintained constant. Formulae are then given for the total flow through the blades and for the discharge coefficients of blading grids with finite and infinite numbers of channels. A relationship is obtained between the flow coefficients in the two cases and then the structure of the expression is simplified to equation (8). The way in which this formula can be used to determine the number of channels required to obtain a given accuracy under given conditions is explained. The second method of approximation is to vary the discharge coefficient whilst keeping the number of blades constant. It follows from Fig 2 that altering p_{ok}, whilst maintaining p_{o2} constant, effectively influences the static pressure beyond the end channels and, therefore, the flow through these channels and the total flow through the grid. This is seen from the graph of change of discharge coefficient

as a function of pressure ratio, given in Fig 3. There is a certain pressure ratio at which the discharge coefficient coincides with the discharge of an infinite grid. Methodical tests were made to determine this ratio p_{ok}/p_{o2}. Data given in Table 1 show that the ratio $p_{ok}/p_{o2} = 1$ is very near to the desired value. Methodical tests were made on grids with three types of nozzle profiles (C-1, TN-2, and D), with various values of relative pitch and blade length. The variables in the tests were the number of test and compensation channels and the pressure ratio. If the flow boundaries are open, changes in the discharge coefficient are characterised by a steady drop as the number of channels is increased, until a practically constant value is reached. When the discharge factor becomes constant it shows that the static pressure beyond the end channels is such that the increase in total pressure-loss in these channels is compensated, and the conditions are those in which the discharge rate for a finite grid coincides with an infinite one. Comparison of discharge

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An Improved Integral Method for the Experimental Determination of the Discharge Coefficients of Nozzle Blades

factors in Figs 4 - 6 obtained in this way with values calculated from test results on grids with open edges shows agreement to within 0.5% (see Table 2). The minimum number of channels in the grid is four or five, depending on the profile shape and the relative pitch. The number of compensating channels is important only when the number of channels in the grid is less than five: otherwise a single compensating channel suffices. Methodical tests with blades of three different profiles led to the conclusion that in the sub-critical range the ratio $p_{0k}/p_{02} = 1$ can always be used. The discharge coefficients given in Table 2 and Figs 3 - 6 were determined by means of the formulae given in the article by Baranov & Deych referred to above. Comparisons between results obtained by the integral methods and those obtained by the pneumometric method showed that it is possible to eliminate completely the difference between the actual

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and calculated discharge rates of turbine flow paths obtained during tests on turbines types VR-25 and VKT-100.

There are 6 figures, 2 tables, and 1 literature reference (Soviet)

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnical Institute)

1. Nozzles--Design 2. Nozzles--Performance 3. Nozzles--Aerodynamic characteristics 4. Nozzles--Properties

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SOV/96-59-6-4/22

AUTHOR: Fedorov, M.F. (Candidate of Technical Sciences)

TITLE: Integral Rate-of-Flow Characteristics of the Blading of Certain Nozzle Profiles (Integral'nyye raskhodnyye kharakteristiki reshetok nekotorykh soplovykh profiley)

PERIODICAL: Teploenergetika, 1959, Nr 6, pp 21-26 (USSR)

ABSTRACT: When the results of static tests on blading are applied to a turbine design the experimental rate of flow is necessarily different from the required value, and this can give rise to appreciable errors. Measurements made by the pneumatic method are not sufficiently reliable and the method is very laborious. Accordingly, in calculating the flow sections of turbine blading, it is advisable to use integral rate-of-flow characteristics of the blading. The use of these characteristics instead of the angular characteristics introduces no major changes into the method of calculation. The values of outlet angles that are necessary for determination of flow kinematics are easily obtained from the integral rate-of-flow characteristics and the accuracy is greater than when pneumatic measurements are made. The rate of flow of working substances through turbine blading as a function of the number of channels, the pitch and height of the

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blades, is given by formula (1). To determine true values of the flow coefficient it is necessary to know the outlet angle of the flow, which cannot yet be determined with sufficient accuracy. However, the flow sections may be calculated from expression (2), which fully characterises the throughput capacity of blading of given geometry and may, therefore, be termed the 'rate-of-flow characteristic'. This characteristic is the ratio of the actual rate of flow through the blades to the theoretical flow through the area occupied by the blades. The second rate-of-flow characteristic is the ratio of the actual rate of flow to the theoretical flow through the area of the narrowest section of the blade channels; see expression (3). The relationship between the two rate-of-flow characteristics is given by expression (4). In the derivation of expression (4) it is assumed that the outlet angle of flow is determined by the simple geometry of the blading, as shown in Fig 1. However, in the sub-critical region of the flow this is not usually the case and so the characteristic given by formula (3) may be termed the